



L. Workoff
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1 1/2 / Disclosure Statement

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :
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DANIEL B. RAEMER, et al. : :
: :
Serial No. 161,046 : Art Unit:
: :
Filed: February 26, 1988 : Examiner:
: :
For: CO₂ INDICATOR AND THE USE : Atty Docket: 627/16
THEREOF TO EVALUATE PLACE- :
MENT OF TRACHEAL TUBES :

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of
Patents and Trademarks
Washington, DC 20231

Sir:

Submitted herewith on Form PTO-1449 is a listing of documents known to the Applicants and/or their attorney in compliance with the requirements of 37 C.F.R. § 1.56. Copies of the documents are also being submitted.

Applicants do not waive any rights to appropriate action to establish patentability over any of the listed documents should they be applied as references against the claims of the present application.

RELEVANCE OF THE DOCUMENTS

Reference AA, referred to on page 4 of the application, discloses a stomach tube which allows determination of proper esophageal

intubation. After insertion of the tube, a small sample of gastric fluid is drawn up the tube. The fluid contacts an acid-base indicator paper, which changes color when contacted with gastric fluid.

Reference AB, referred to on page 4 of the application, discloses systems for sensing the carbon dioxide content of a gas by measuring the properties of a surface in contact with the carbon dioxide. The change in the surface may be chemical, for example, as when carbon dioxide is reversibly absorbed by an amine on a surface or may be a change in temperature, for example, caused by the absorption of infrared radiation by a surface having carbon dioxide absorbed thereon (column 1, lines 9-26). Also disclosed is the detection of carbon dioxide by the measurement optical properties or electrical conductivity changes of the surface in contact with carbon dioxide (column 1, line 64 to column 2, line 2). Also disclosed is the use of an indicator substance which reacts in the range of pH in view of one of these reversible carbon dioxide systems, for example, Brom cresol purple or Brom thymol blue (column 4, lines 22-26).

Reference AC, referred to on page 5 of the application, discloses a method for determining the presence of carbon dioxide in a gas by passing the gas through a bed of activated alumina carrying thymol blue or thymol blue and a base. The presence of carbon dioxide causes the alumina to change color to pink or yellow (column 1, lines 43-55). The patent discloses that generally, any base may be used, although inorganic bases or organic bases of low volatility, e.g., alkali metal hydroxides, alkali metal carbonates and bicarbonates, and alkaline earth metal hydroxides are preferred (column 2, lines 16-19).

Specifically disclosed bases include NaOH (column 2, line 10) and diethanolamine (column 2, lines 20-21).

Reference AD discloses a system for sensing the carbon dioxide content of a gas. A thin layer of a chemical, reversibly absorbent for carbon dioxide, is used which changes its pH in relation to the amount of carbon dioxide absorbed. An indicator present in the film changes color in accordance with the pH. Disclosed acid-base indicators include phenol red, brilliant yellow, meta cresol purple, cresol red, neutral red, m-nitrophenol, and m-dinitrobenzoylene urea. In general, indicators showing color changes within the pH range of 6.4 to 8.8 are suitable (column 4, lines 3-10). The sensing element was prepared by dipping a sheet of Whatman filter paper No. 3 into a solution composed of aqueous potassium hydroxide, phenol red, and triethylene glycol (column 2, lines 3-8).

Reference AR, referred to on page 2 of the application, discloses an endotracheal intubation device which measures the carbon dioxide level of a sample of expired air bubbled through a chamber containing phenolphthalein and cresol red. Successful intubation is determined by a color change within 3 to 5 seconds.

REMARKS

This statement should not be construed as a representation that more material information does not exist or than an exhaustive search of the relevant art has been made.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application are respectfully requested.

Respectfully submitted,

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